

Figure 2.1: Conceptual approach for multi-stressor aquatic ecosystem model (SAGZM/PCB)

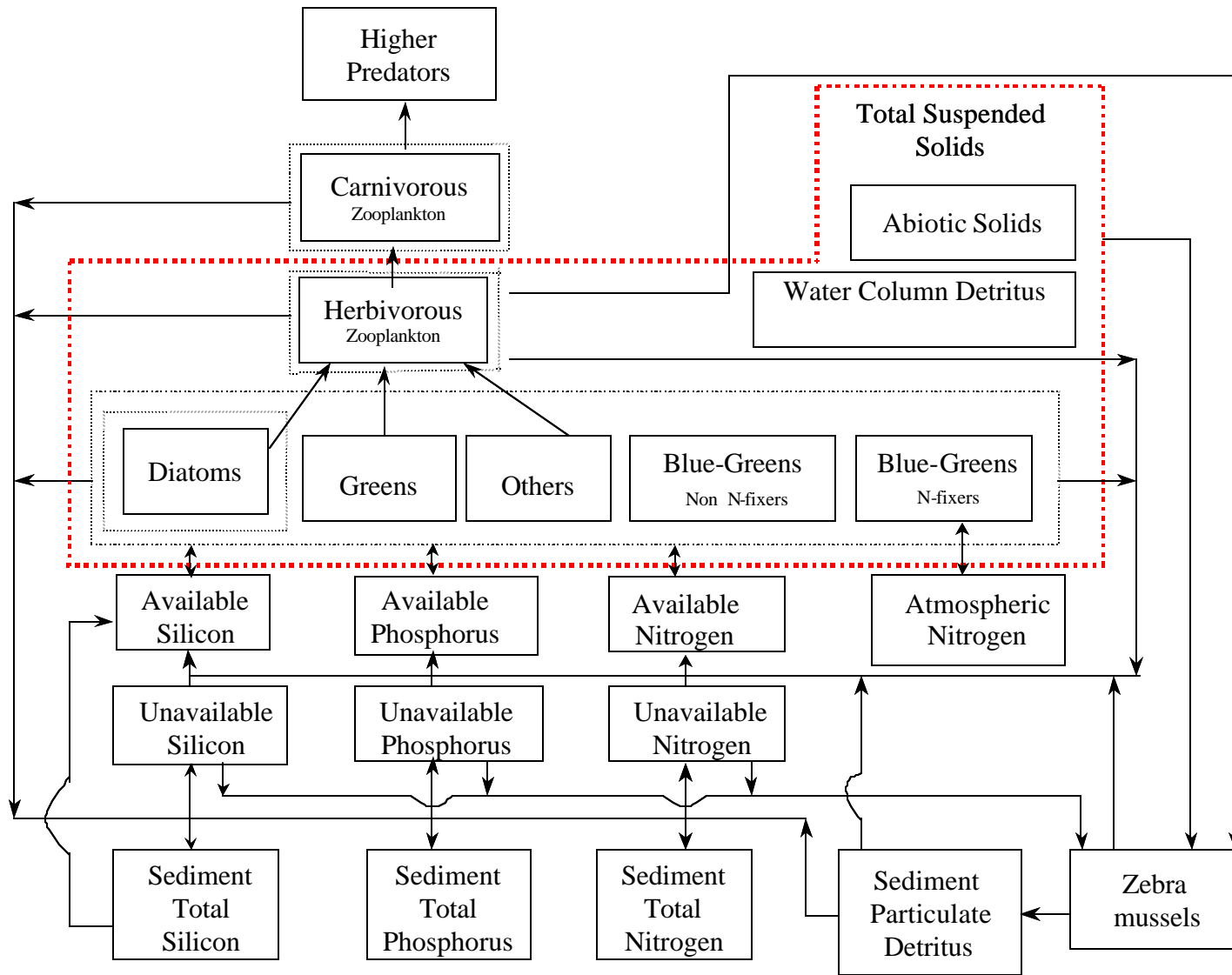


Figure 2.2: Modified Saginaw Bay multi-class phytoplankton zebra mussel model

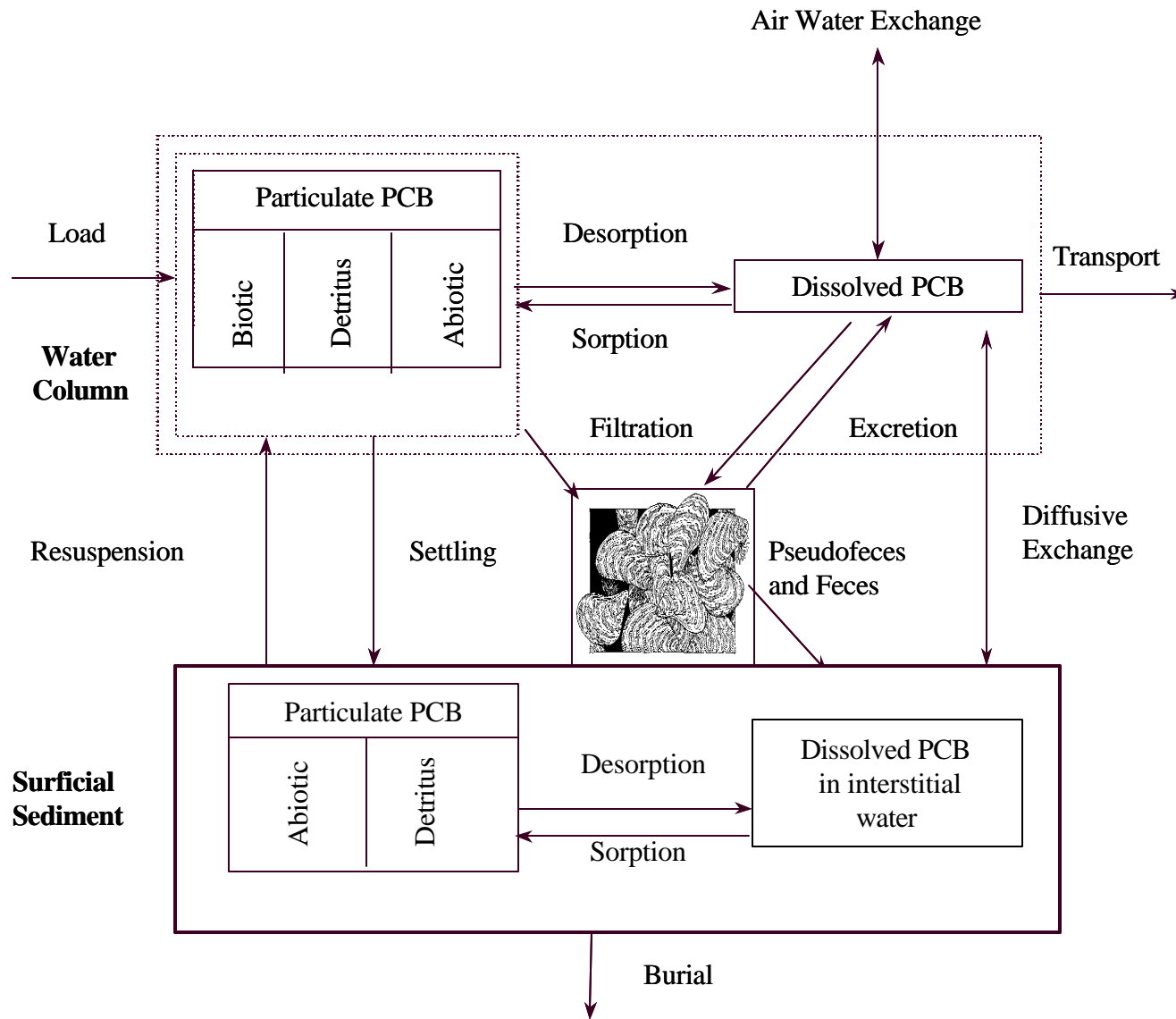


Figure 2.3: Conceptual diagram for solids and PCB mass balance

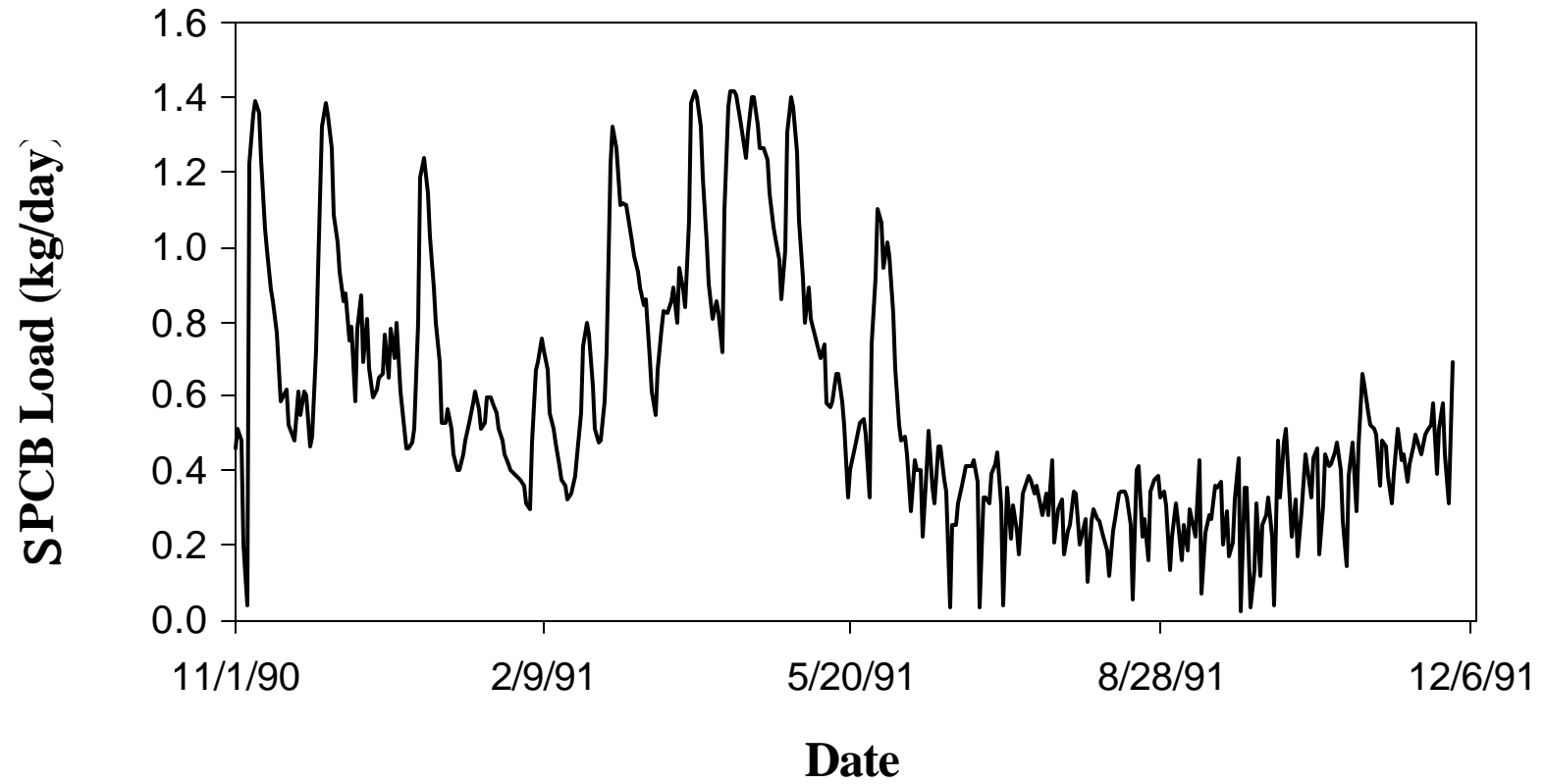


Figure 3.1: Time Series for Saginaw River Loads for SPCBs

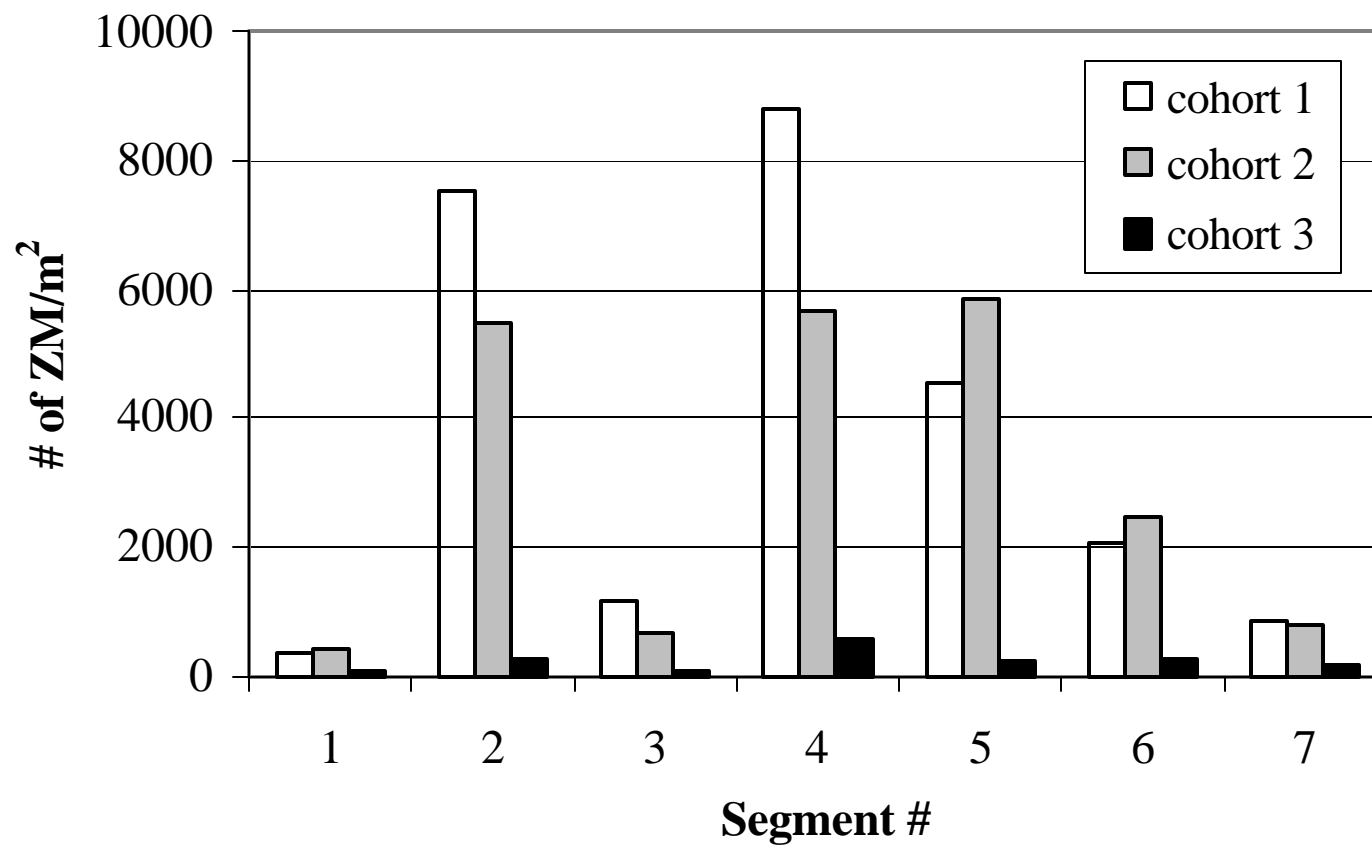


Figure 3.2: Average 1991-1995 zebra mussel densities in seven segments of the bay

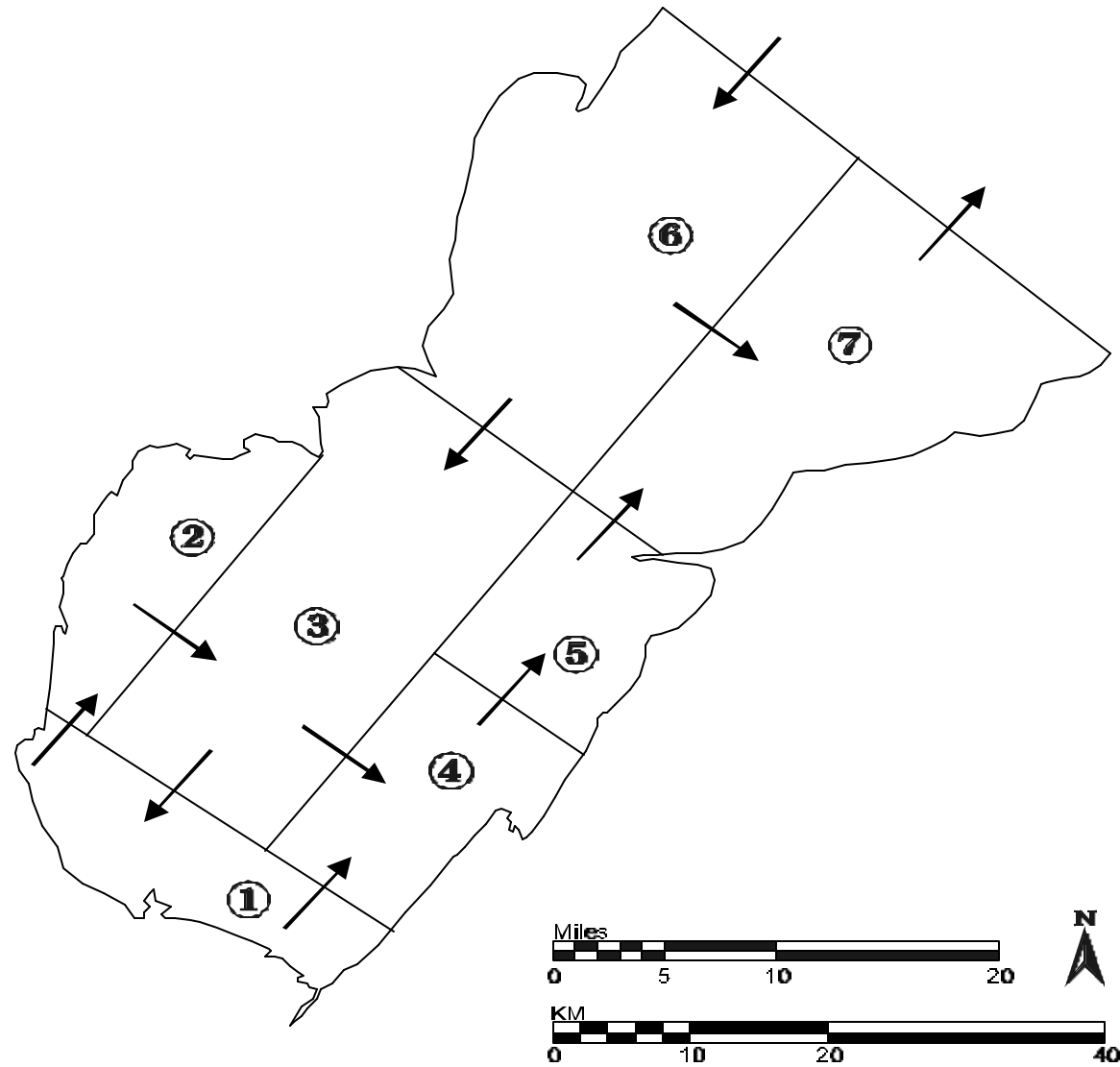
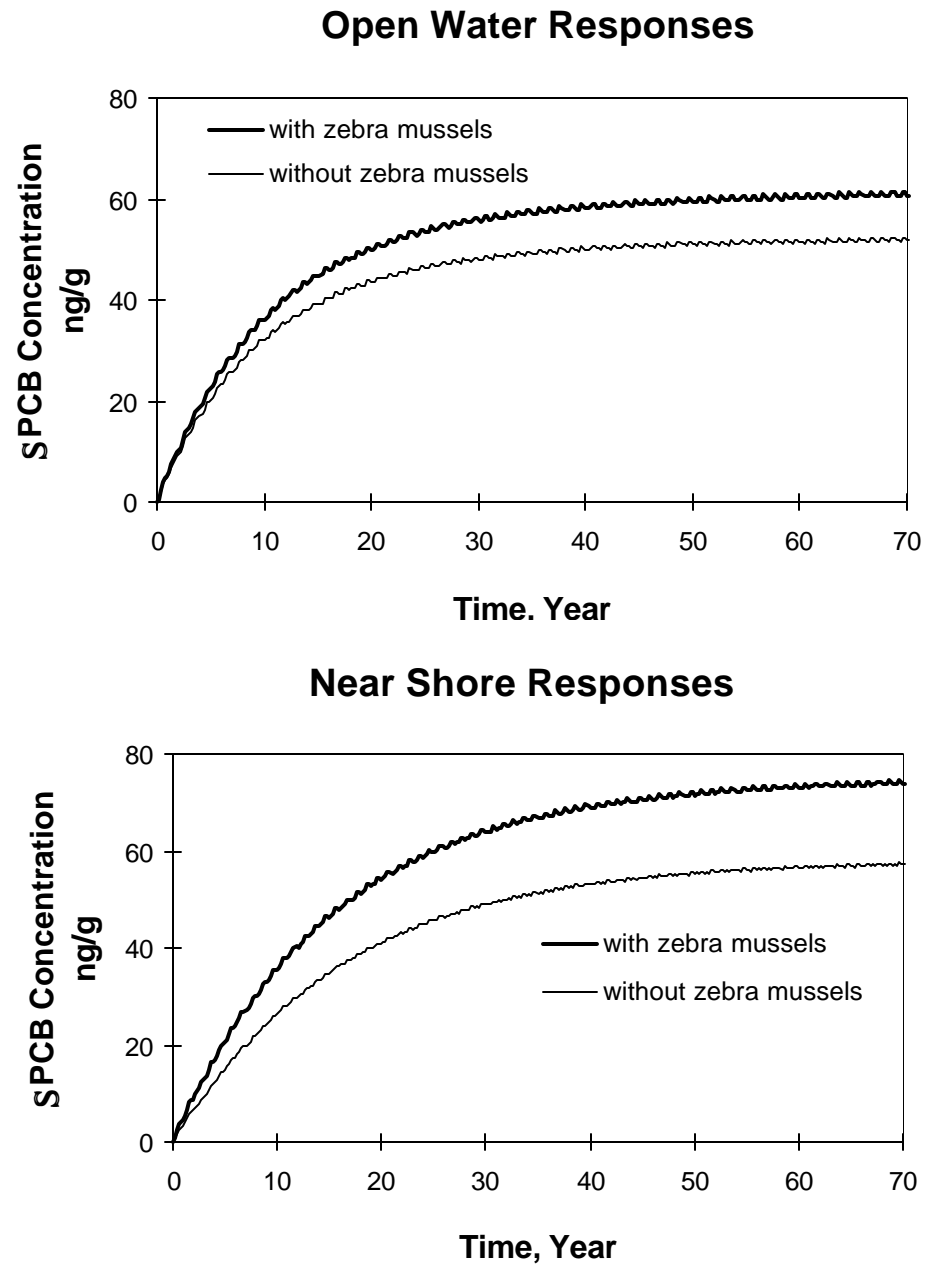


Figure 3.3: Seven-Segment Model Grid for Saginaw Bay

Figure 4.1: Surficial sediment SPCB concentrations in open water and near shore zones of the bay as a function of time, both with and without zebra mussels



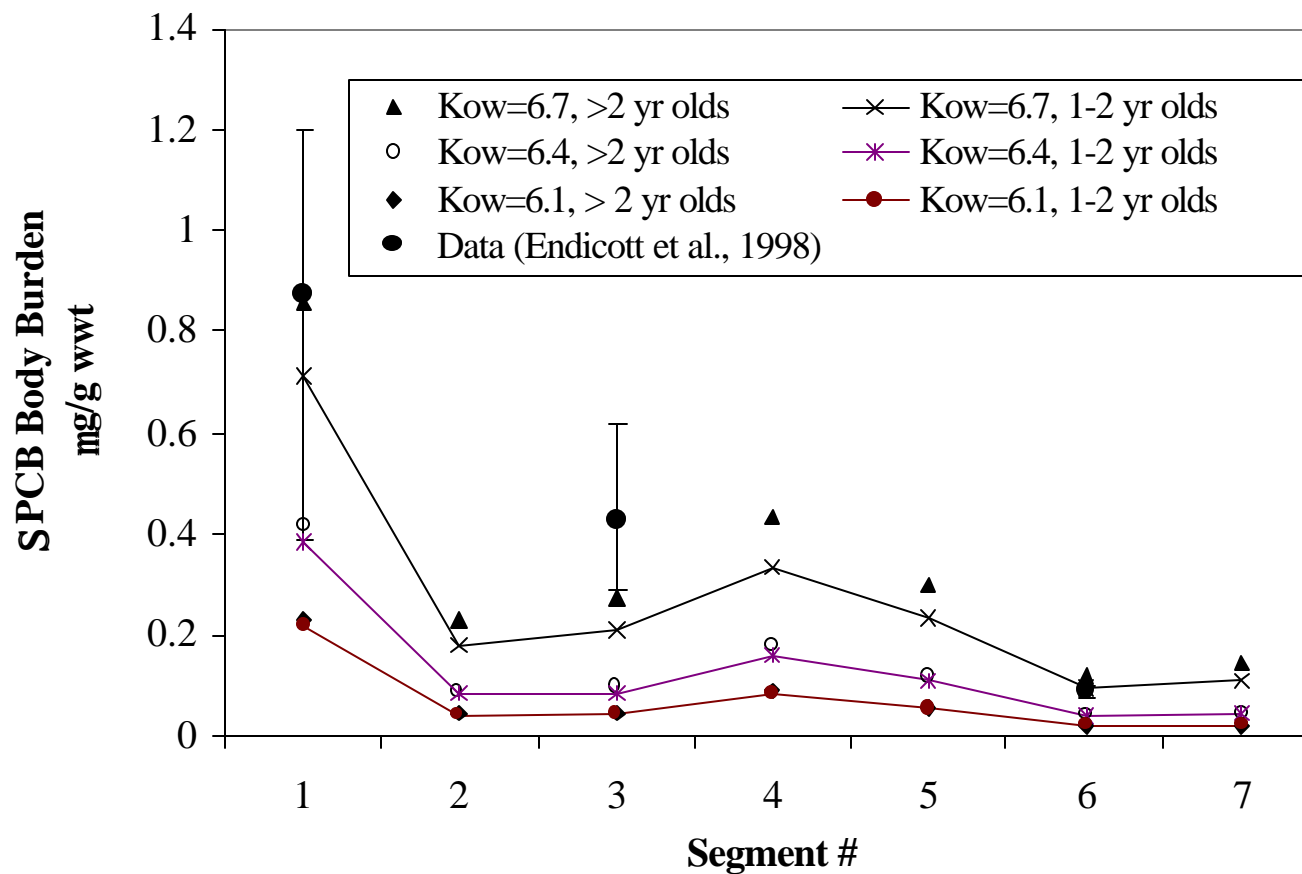


Figure 4.2: Comparison of simulated SPCB body burden of zebra mussels with measurements

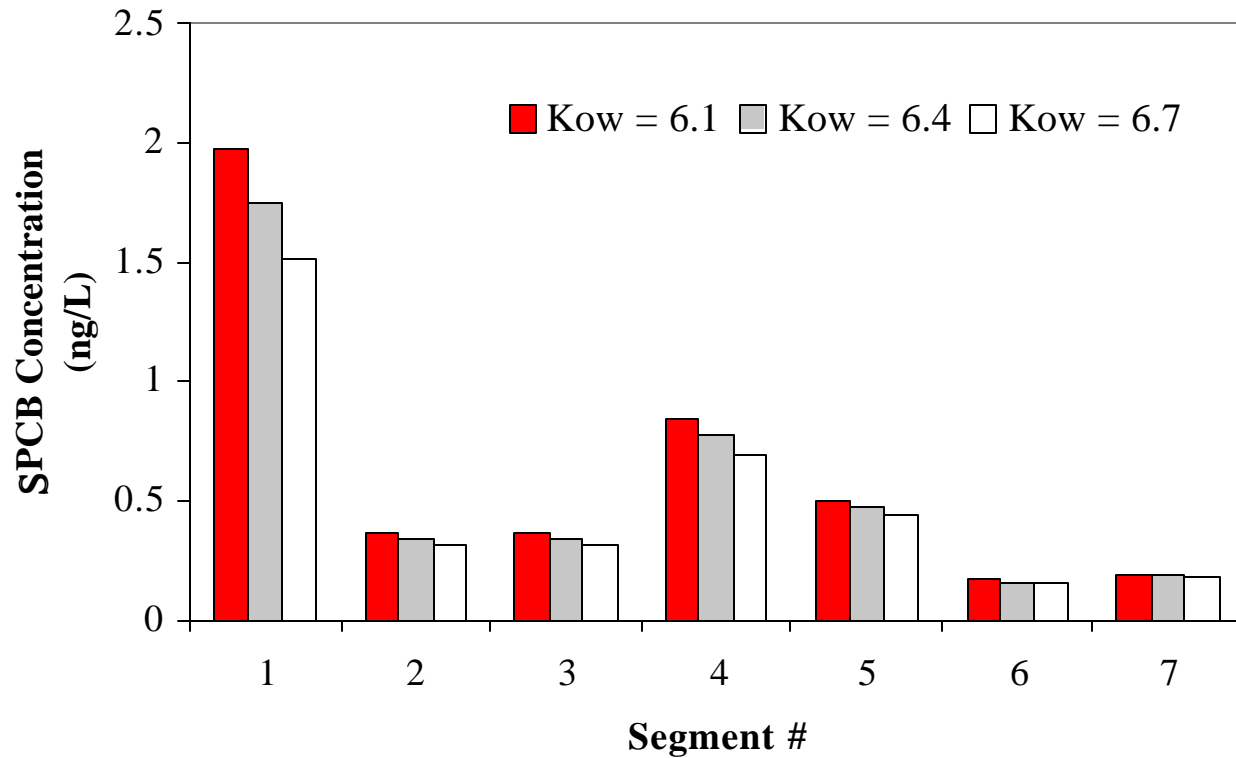


Figure 4.3: Response of annual average water column dissolved SPCB concentration to changes in Log K_{ow} during the steady-state year in presence of zebra mussels

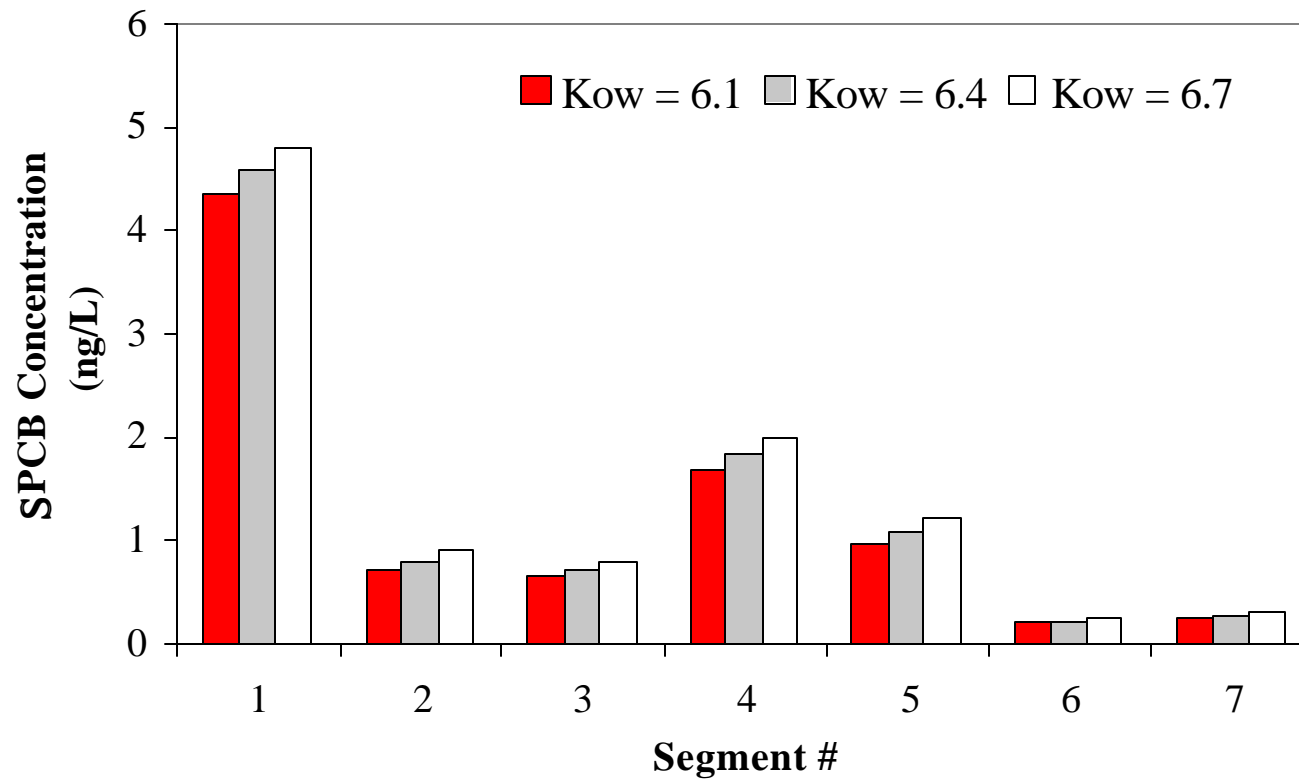


Figure 4.4: Response of annual average water column total SPCB concentration to changes in Log K_{ow} during the steady-state year in presence of zebra mussels

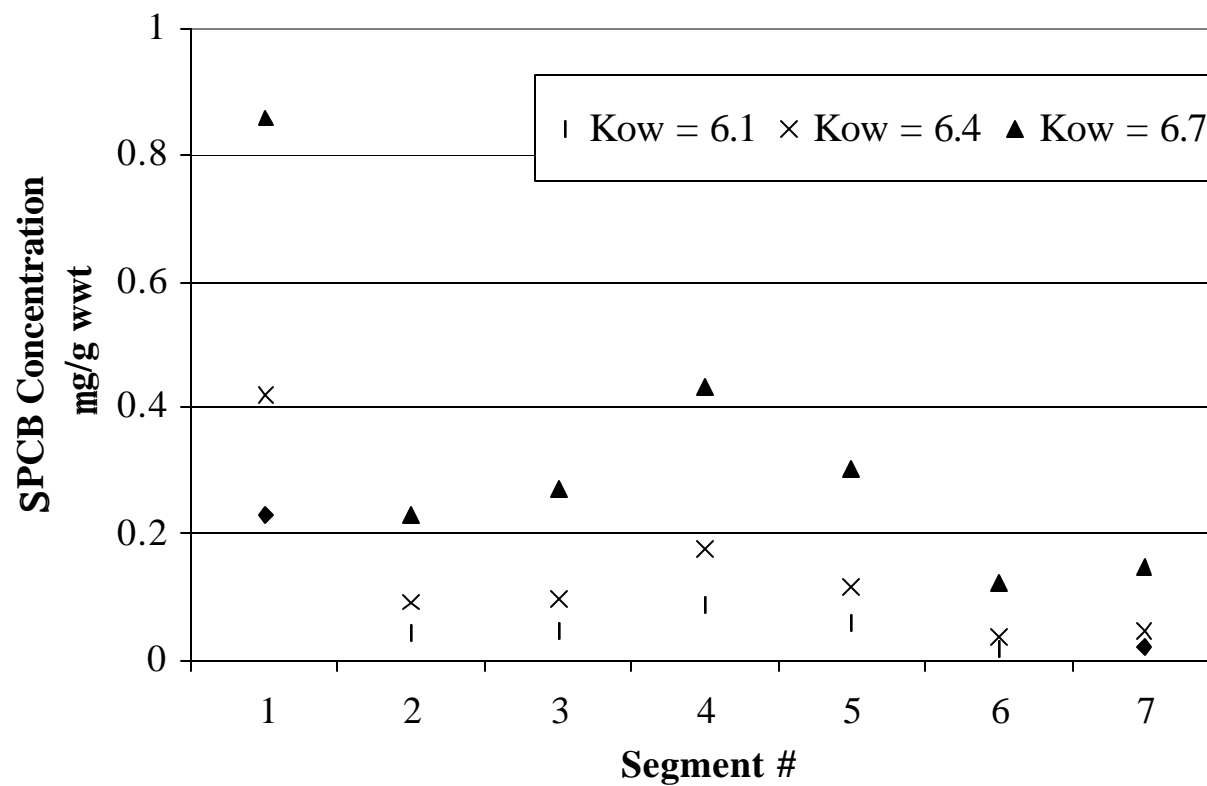


Figure 4.5: Annual average SPCB body burden of >2 year old mussels for different Log K_{ow} values during a steady-state year

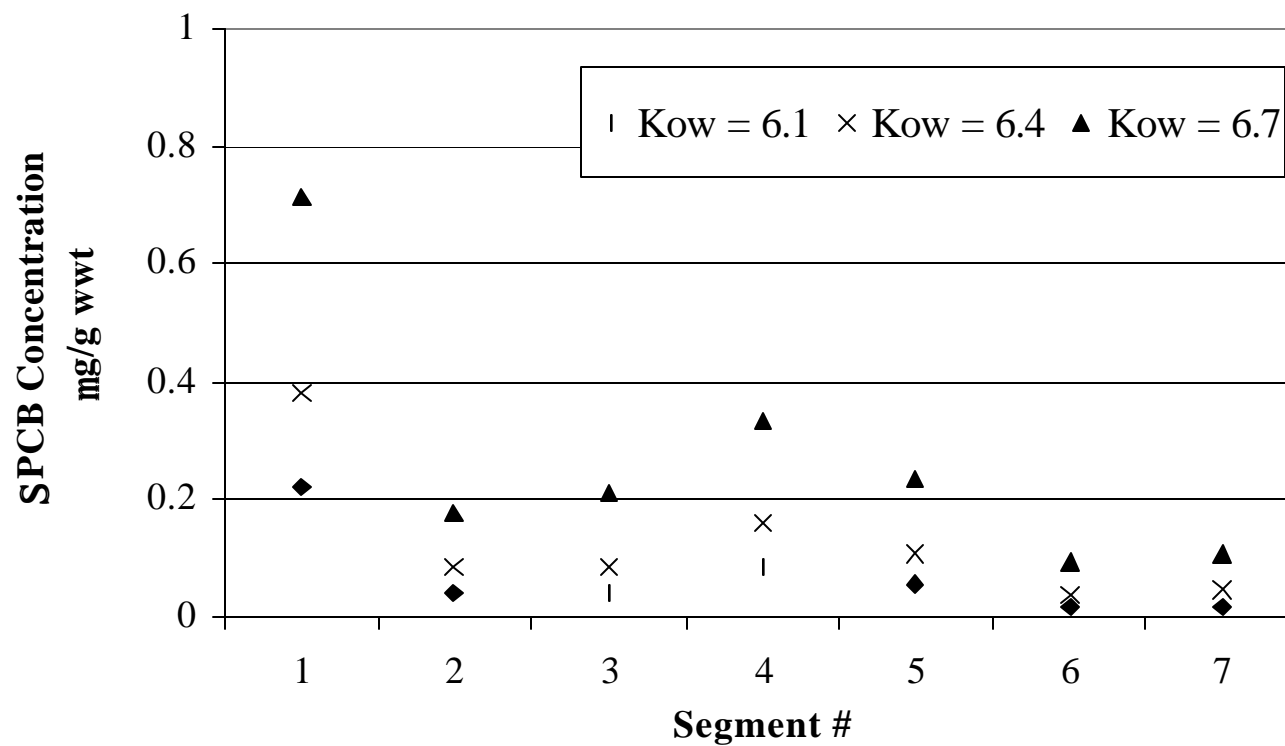


Figure 4.6: Annual average SPCB body burden of 1-2 year old mussels for different Log K_{ow} values during a steady-state year

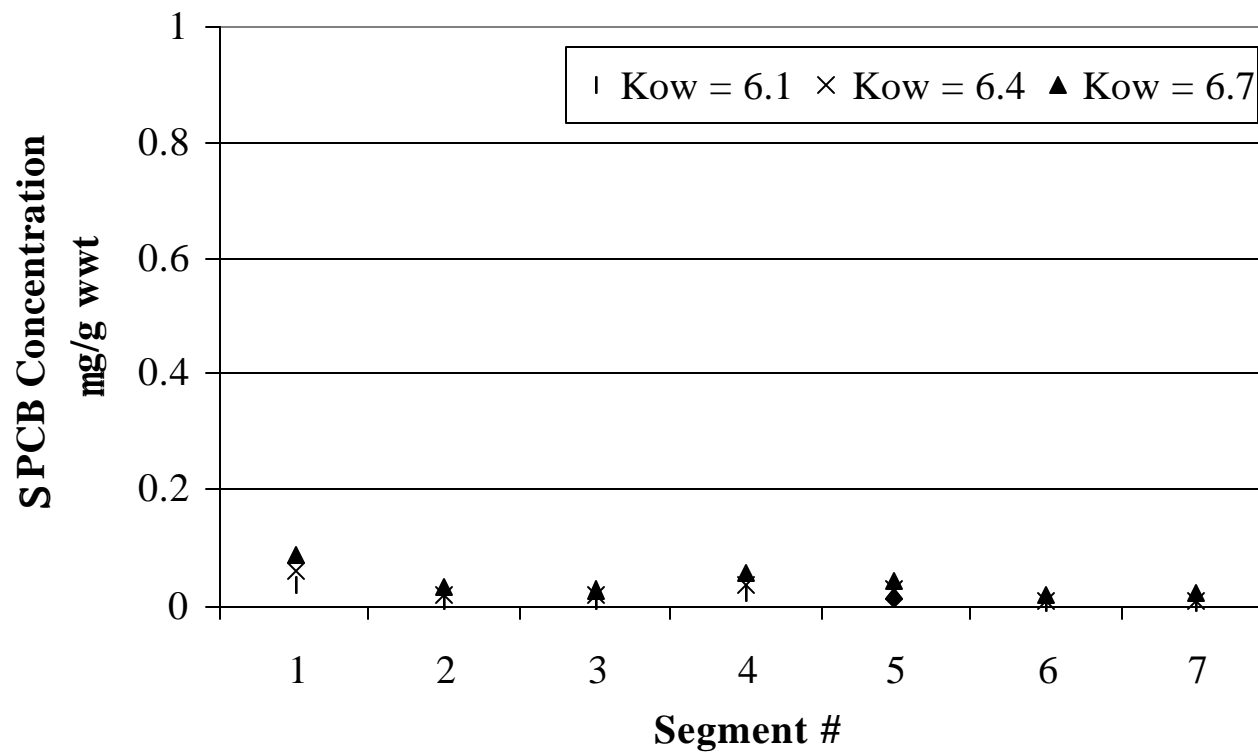


Figure 4.7: Annual average SPCB body burden of <1 year old mussels for different Log K_{ow} values during a steady-state year

Figure 4.8: Responses of annual average water column SPCB concentration in open water (top plate) and near shore (bottom plate) to changes in PCB loads and zebra mussel densities during a steady-state year

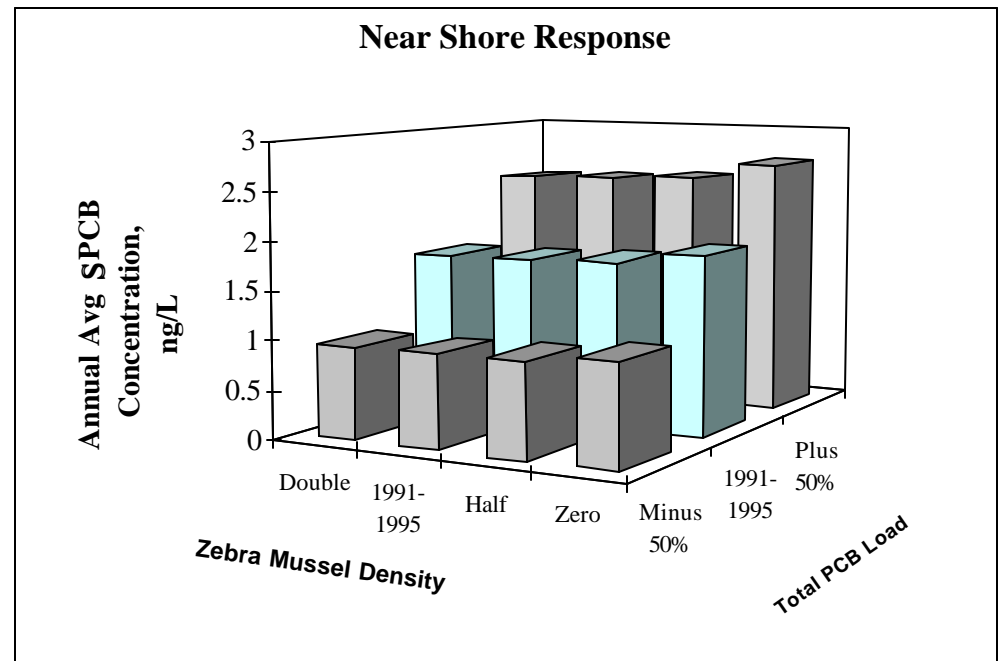
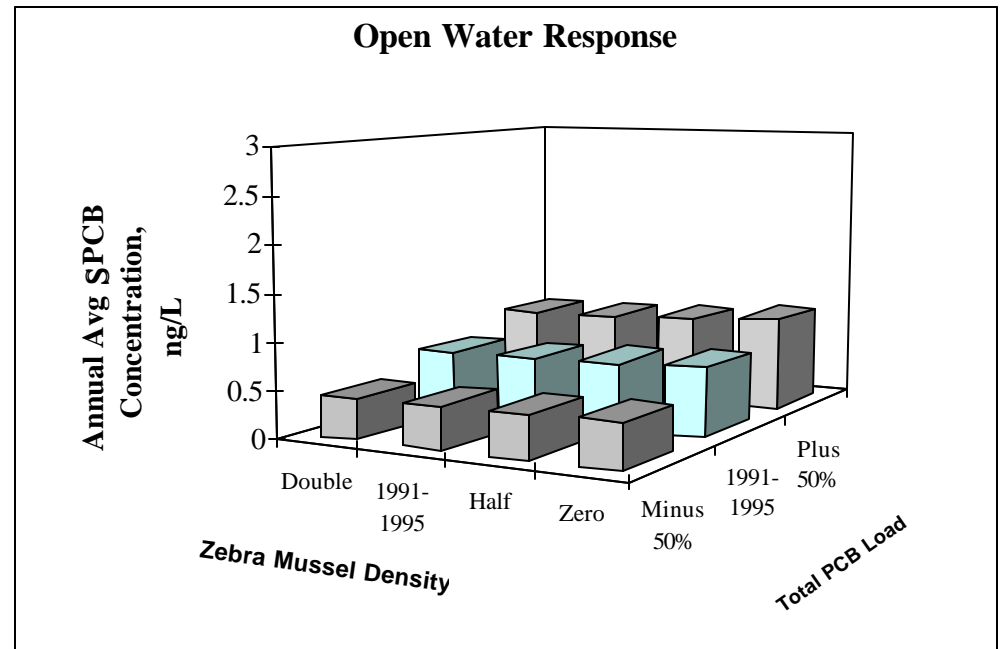


Figure 4.9: Responses of annual average surficial sediments SPCB concentration in open water (top plate) and near shore (bottom plate) to changes in PCB loads and zebra mussel densities during a steady-state year

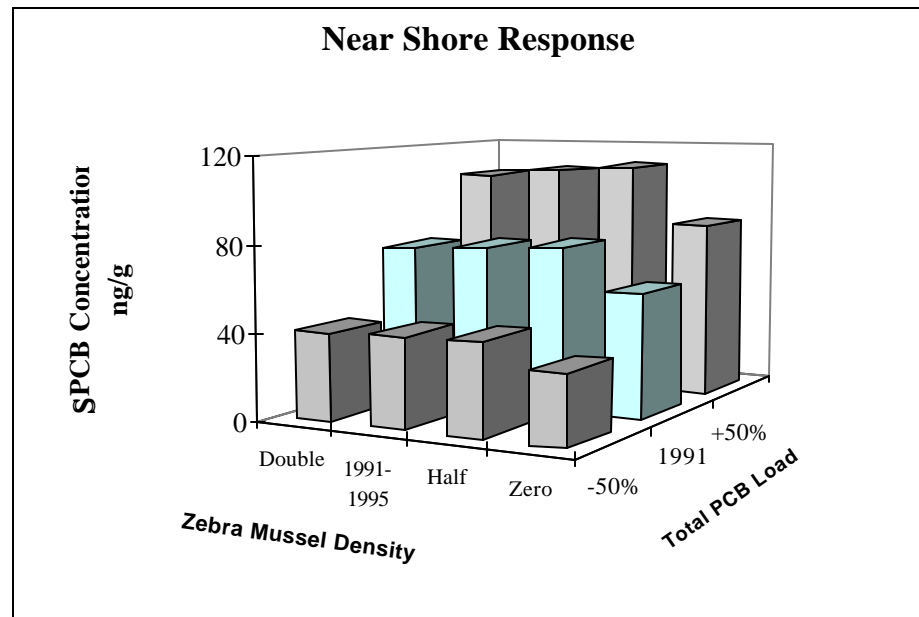
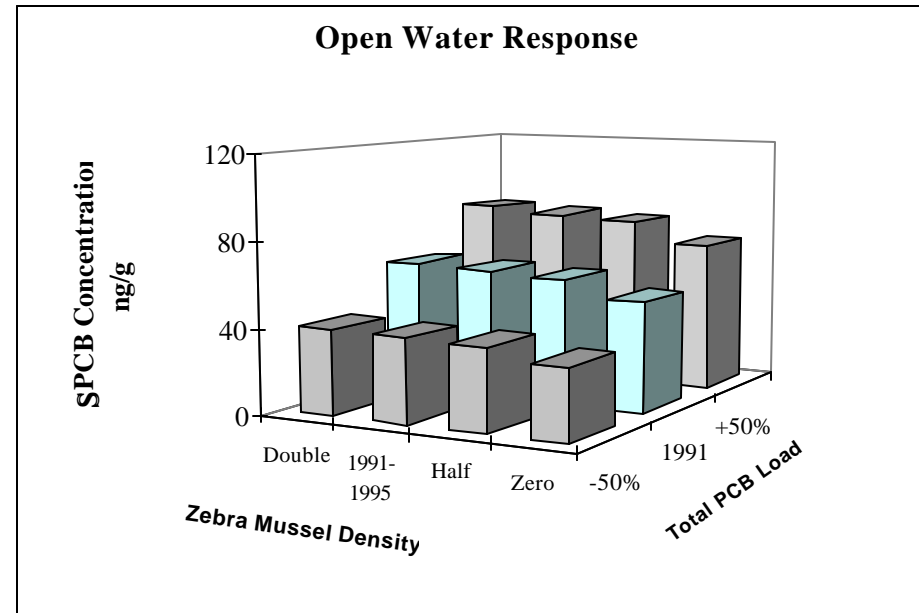


Figure 4.10: Responses of annual average SPCB body burden of >2 year old mussels in open water (top plate) and near shore (bottom plate) to changes in SPCB loads and zebra mussel densities during a steady-state year

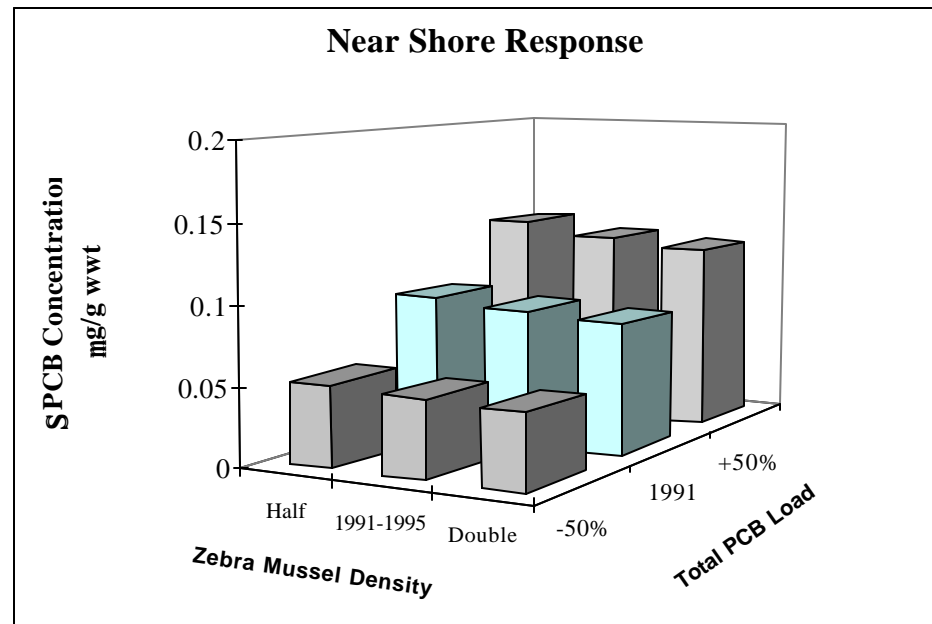
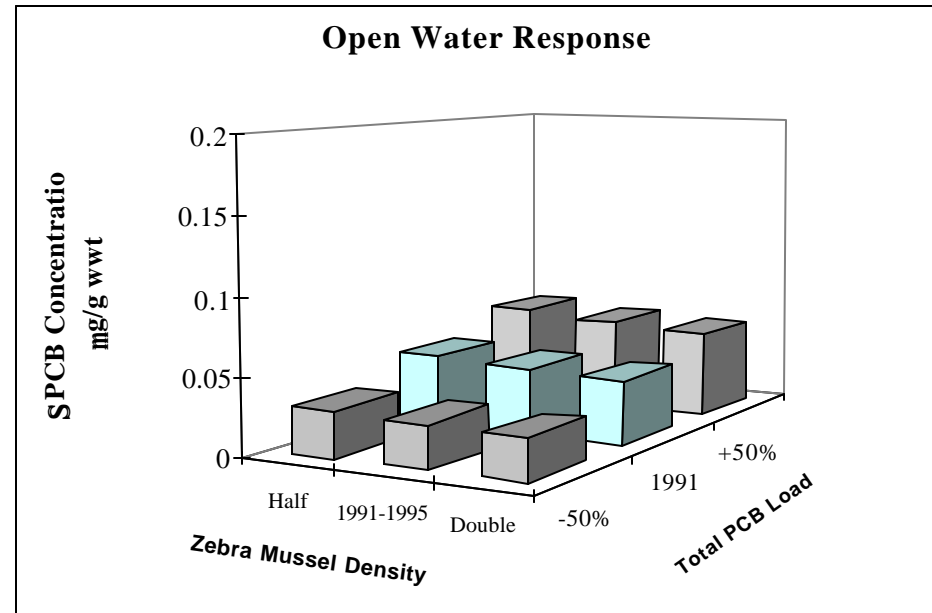


Figure 4.11: Responses of annual average SPCB concentration in water column in the open water (top plate) and near shore (bottom plate) to changes in SPCB and phosphorus loads during a steady-state year

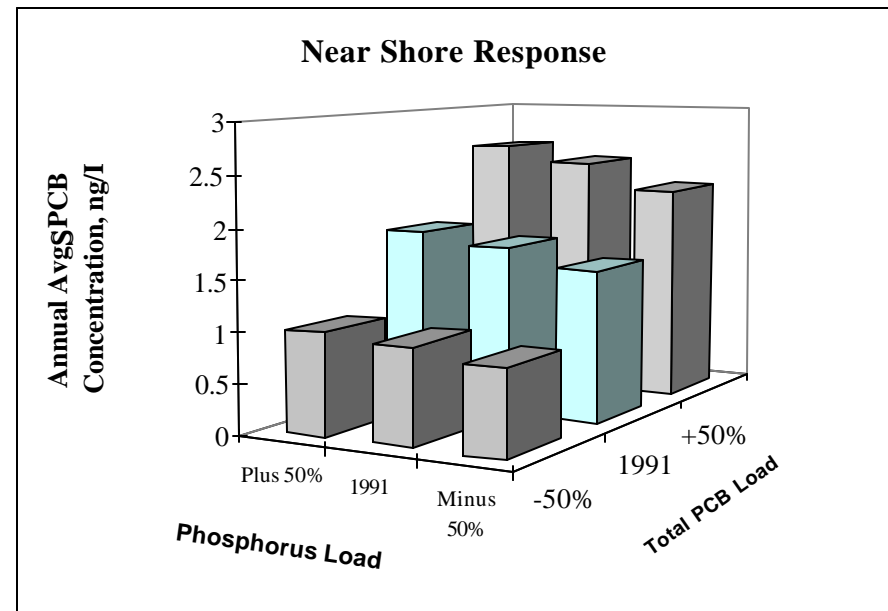
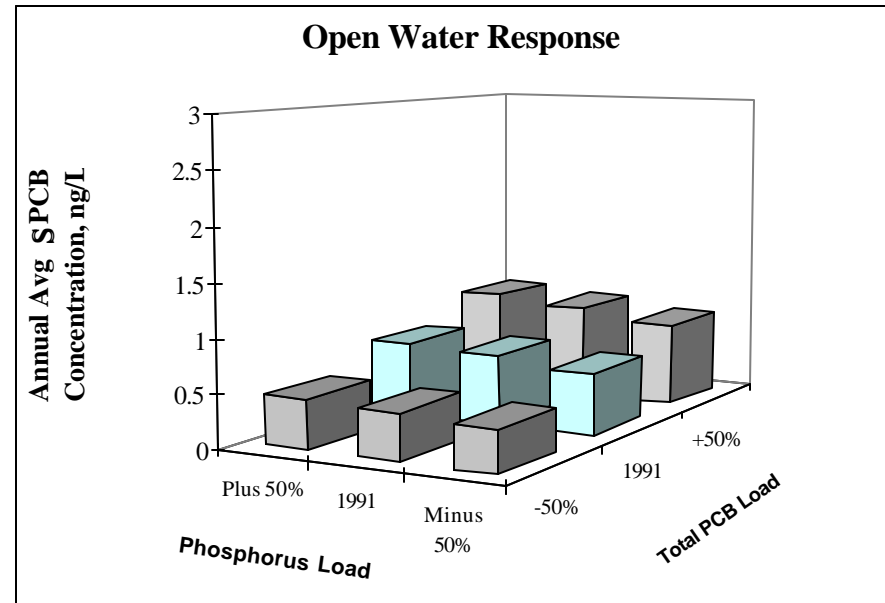


Figure 4.12: Responses of annual average dissolved SPCB concentration in the open water (top plate) and near shore (bottom plate) to changes in SPCB and phosphorus loads during a steady-state year

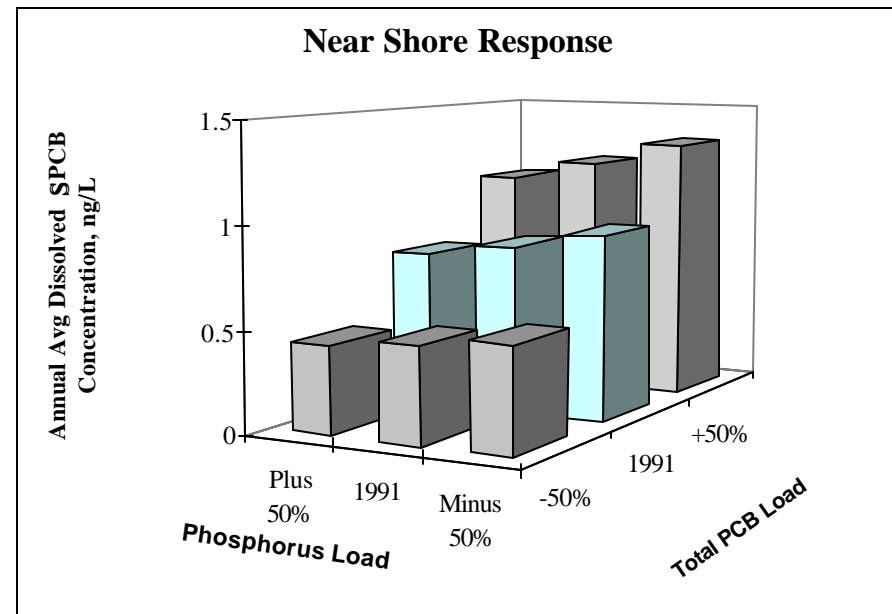
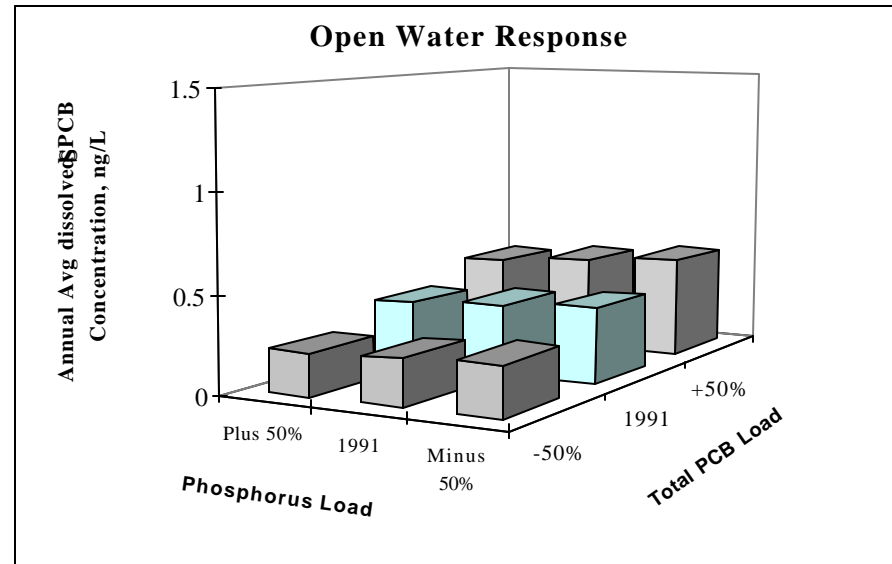


Figure 4.13: Responses of annual average sediment SPCB concentration in the open water (top plate) and near shore (bottom plate) to changes in SPCB and phosphorus loads during a steady-state year

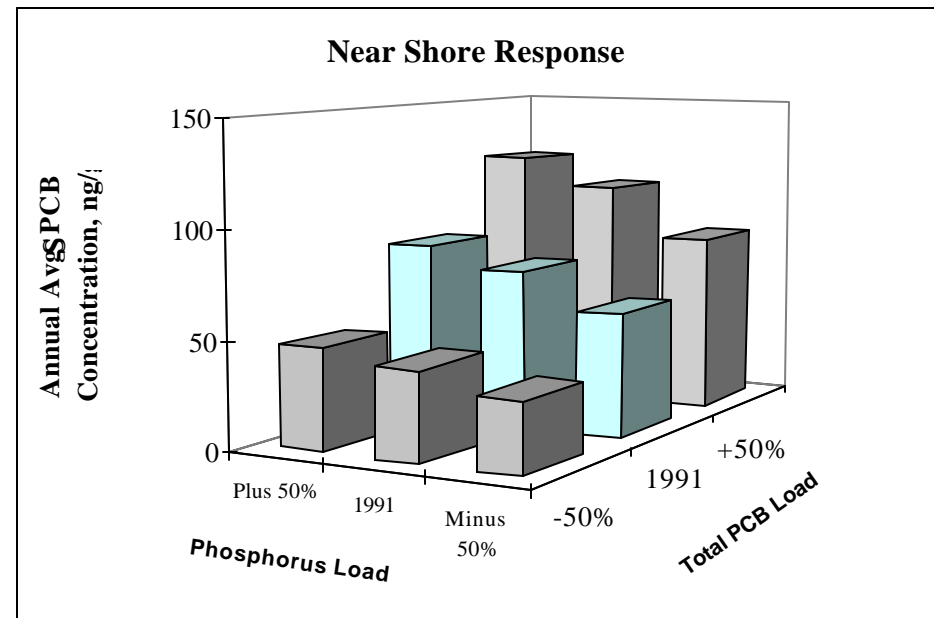
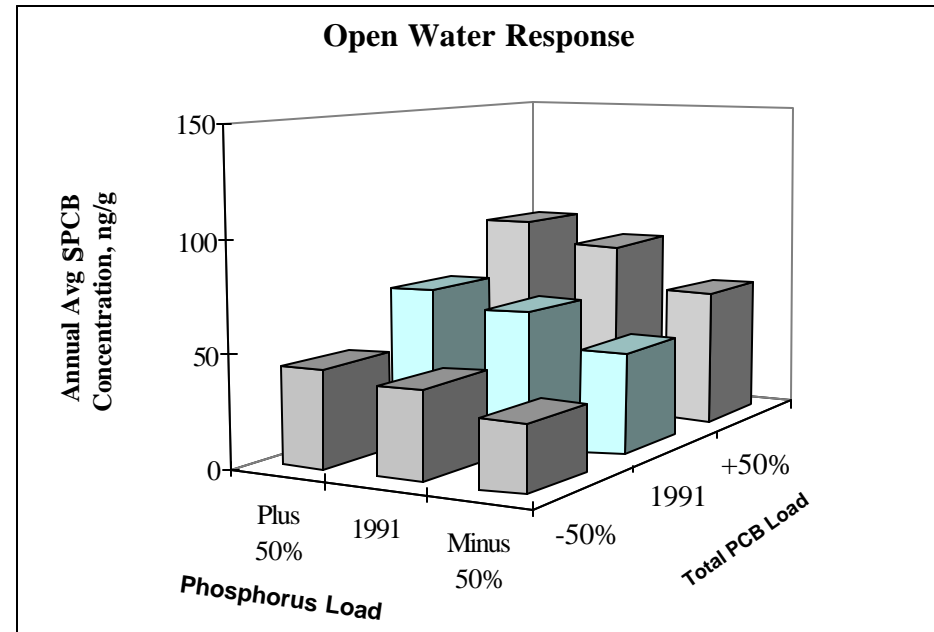
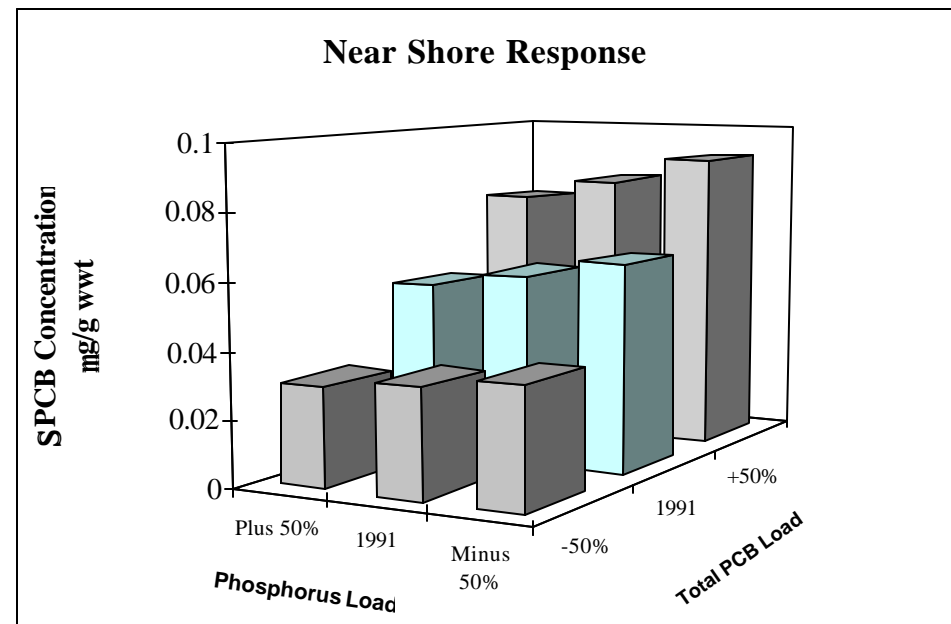
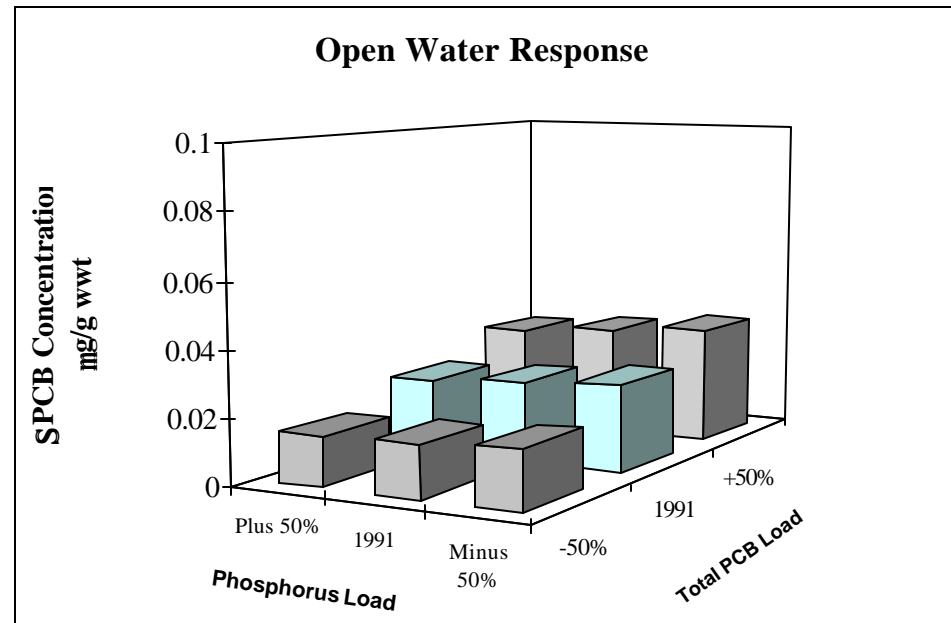


Figure 4.14: Responses of annual average phytoplankton SPCB concentration in the open water (top plate) and near shore (bottom plate) to changes in SPCB and phosphorus loads during a steady-state year



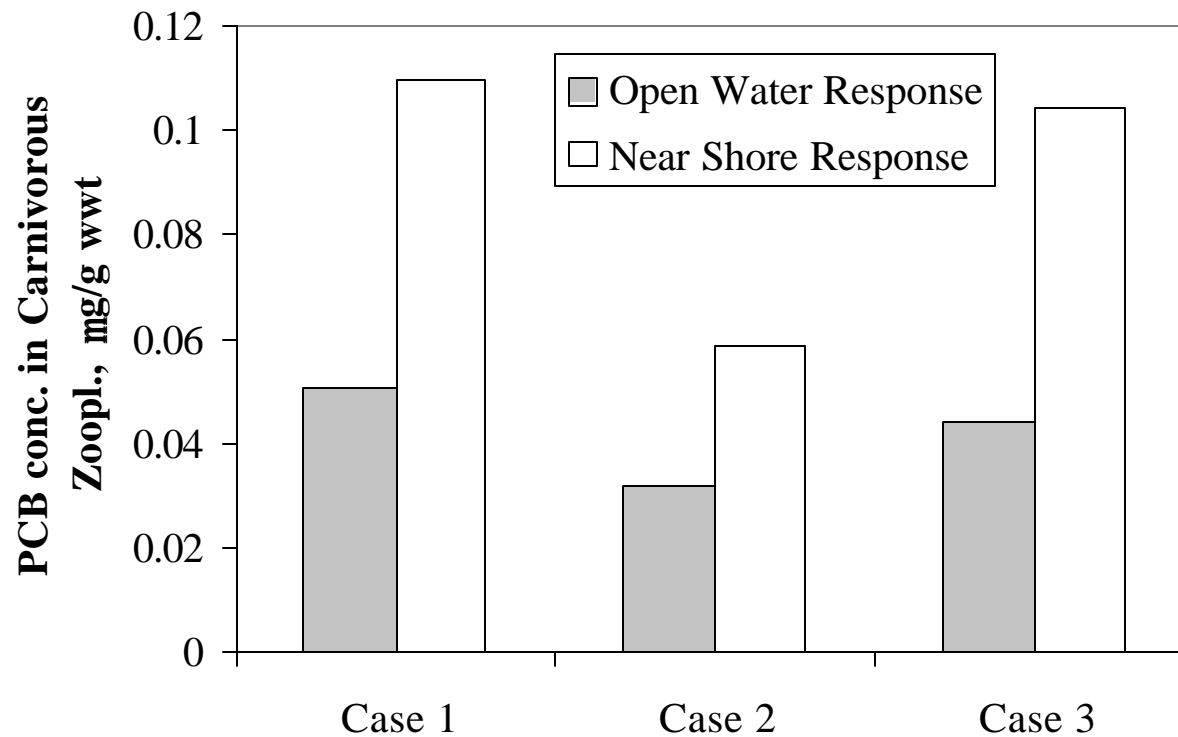
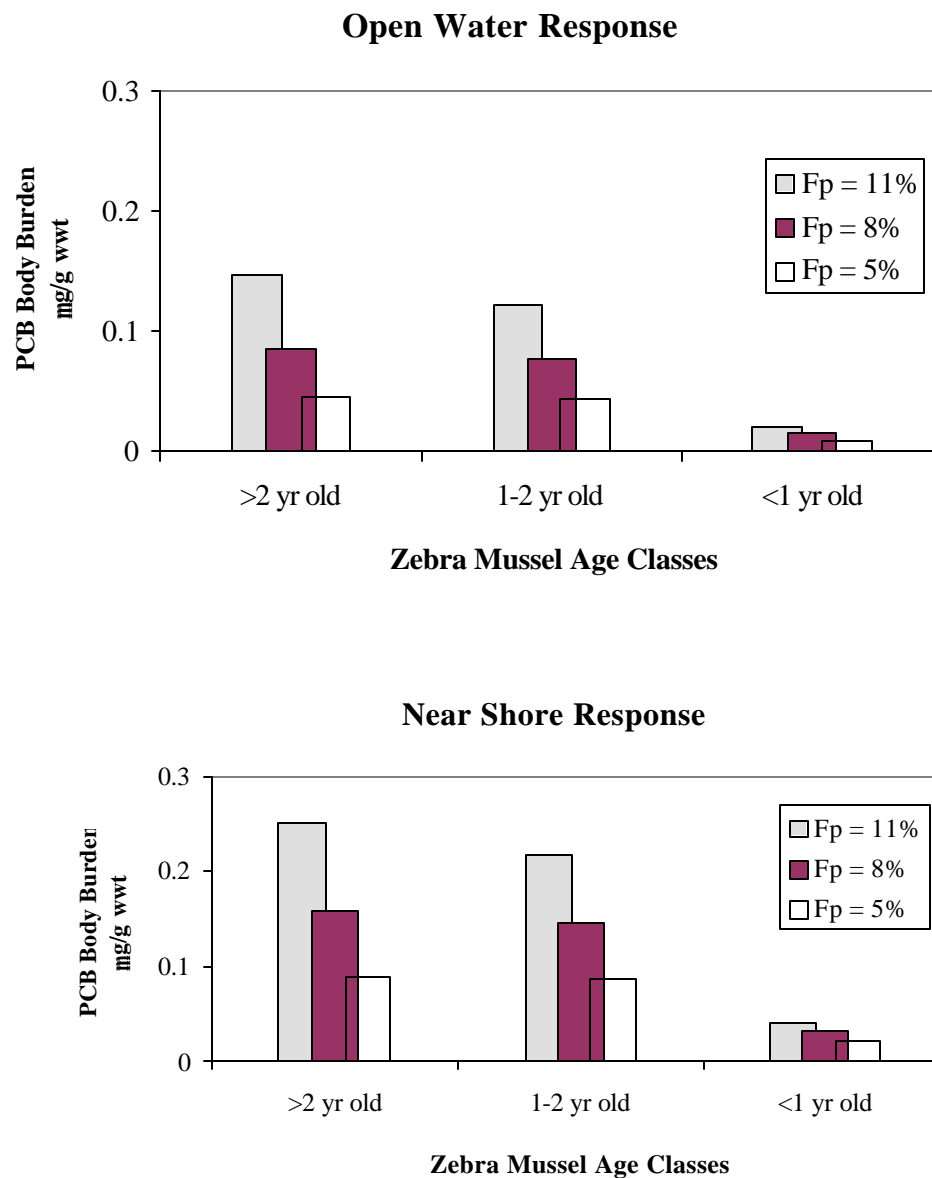


Figure 4.15: Responses of annual average sediment SPCB concentration in the open water (top plate) and near shore (bottom plate) to changes in SPCB and phosphorus loads during a steady-state year

Figure 4.16: Responses of SPCB body burden of zebra mussels in the open water (top plate) and near shore (bottom plate) to changes in lipid fraction (Fp) of mussels during a steady-state year



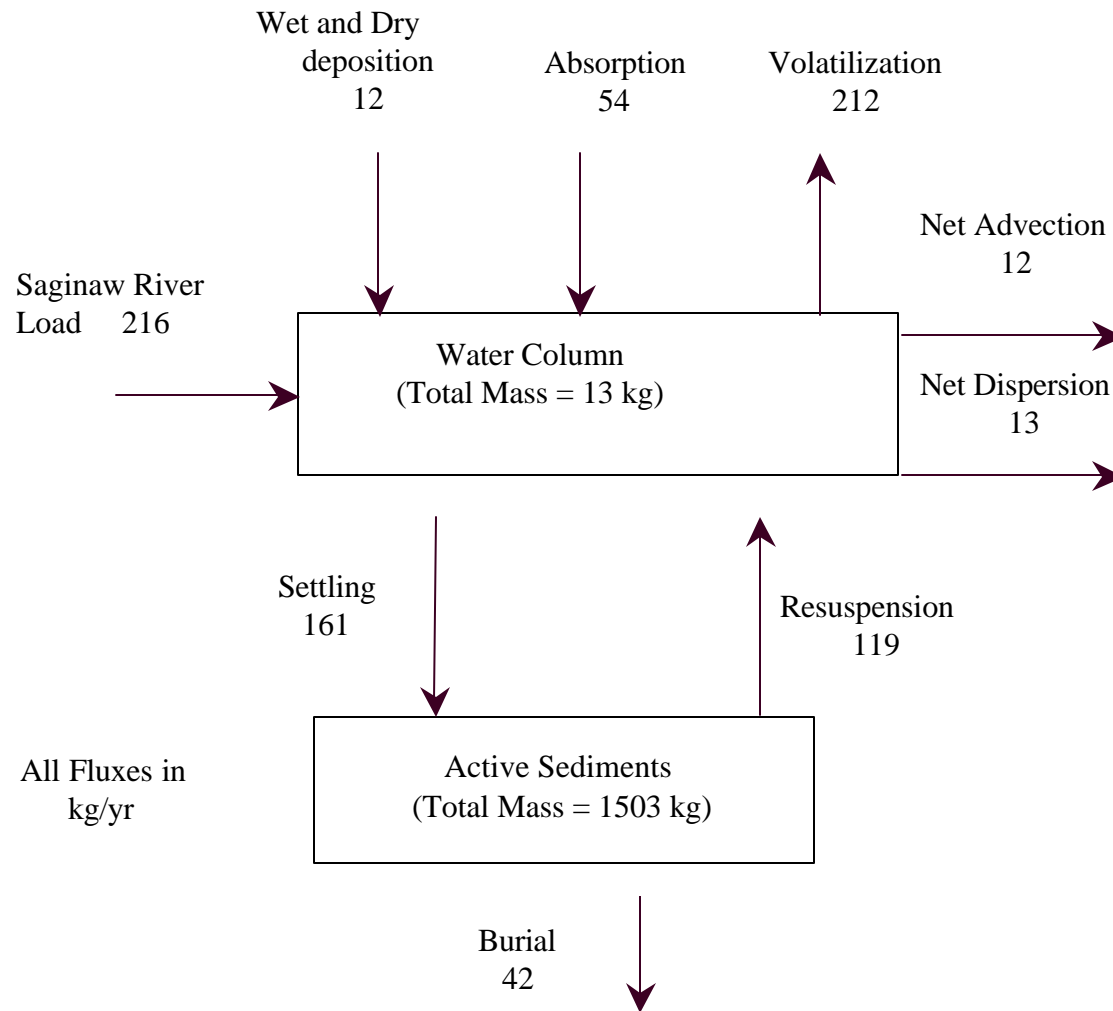


Figure 5.1: SPCB mass fluxes and reservoirs in Saginaw Bay during the steady state year in the absence of zebra mussels

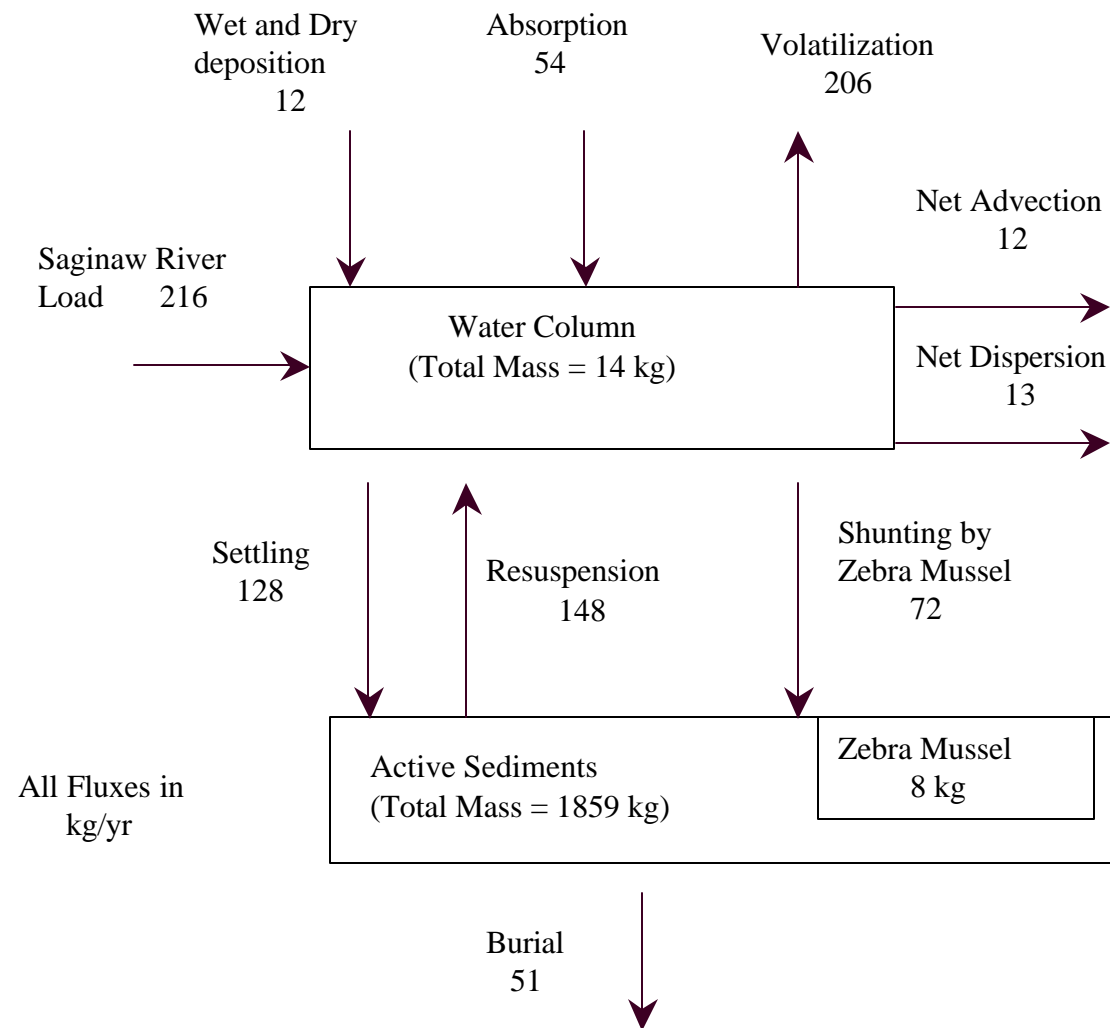


Figure 5.2: SPCB mass fluxes and reservoirs in Saginaw Bay during the steady-state year in presence of zebra mussels

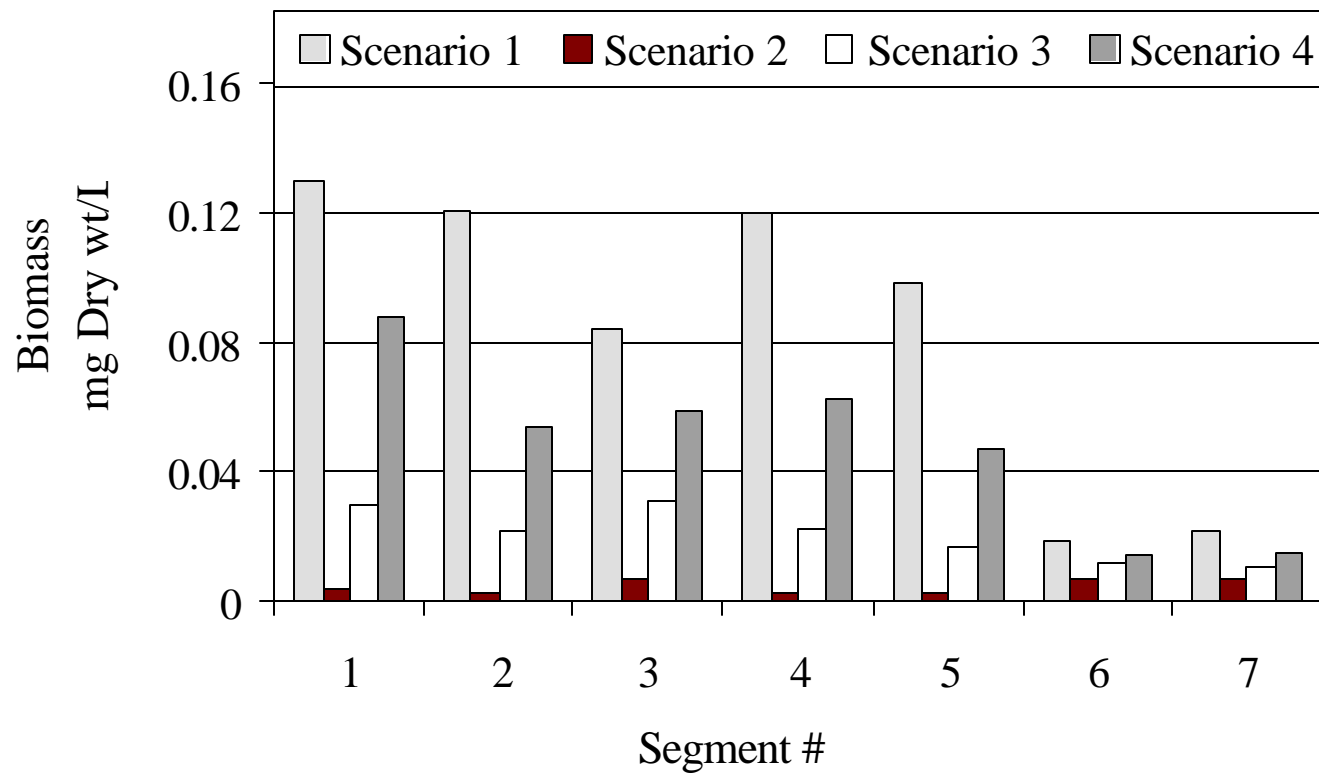


Figure 5.3: Annual average biomass of herbivorous zooplankton under above-mentioned four scenarios

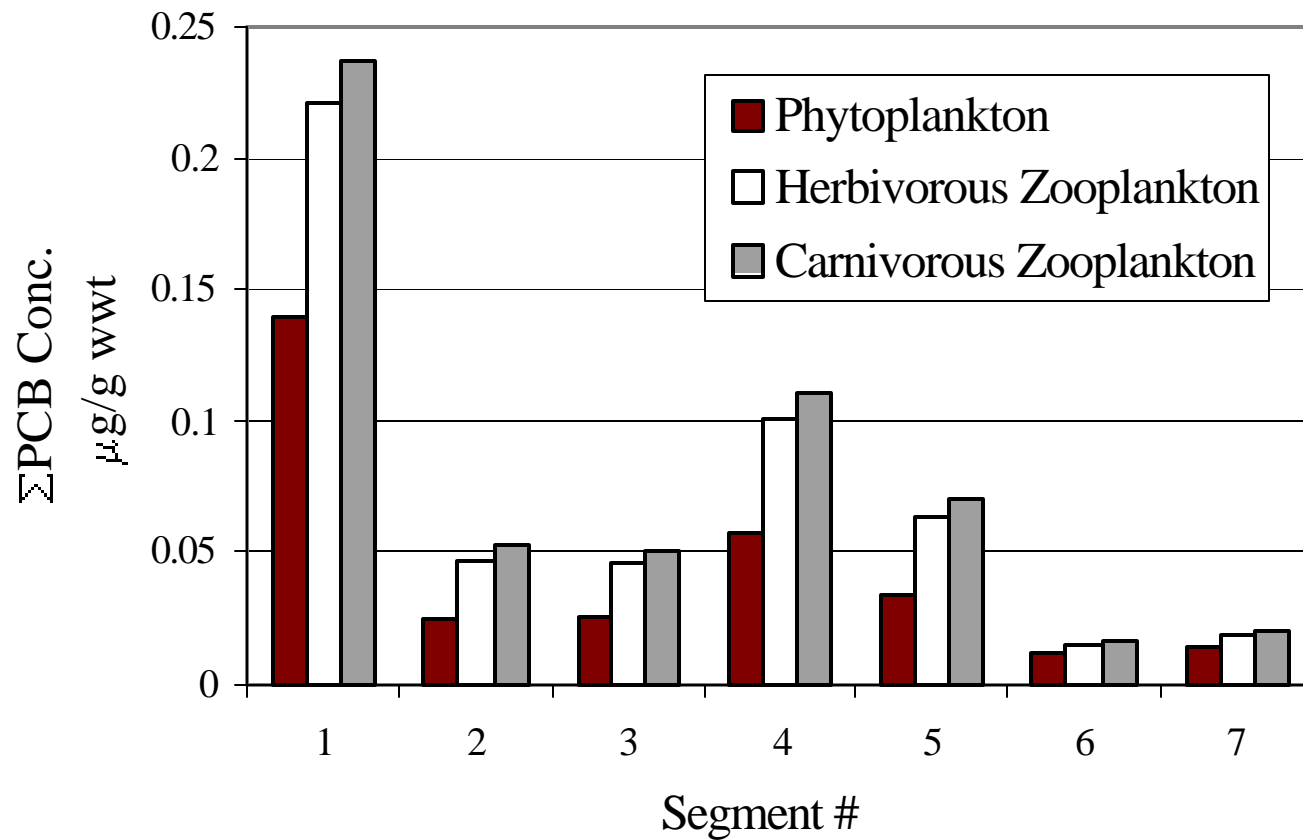


Figure 5.4: Annual average ΣPCB body burden (μg PCB/g wet weight) of various species in absence of zebra mussels under Scenario 1

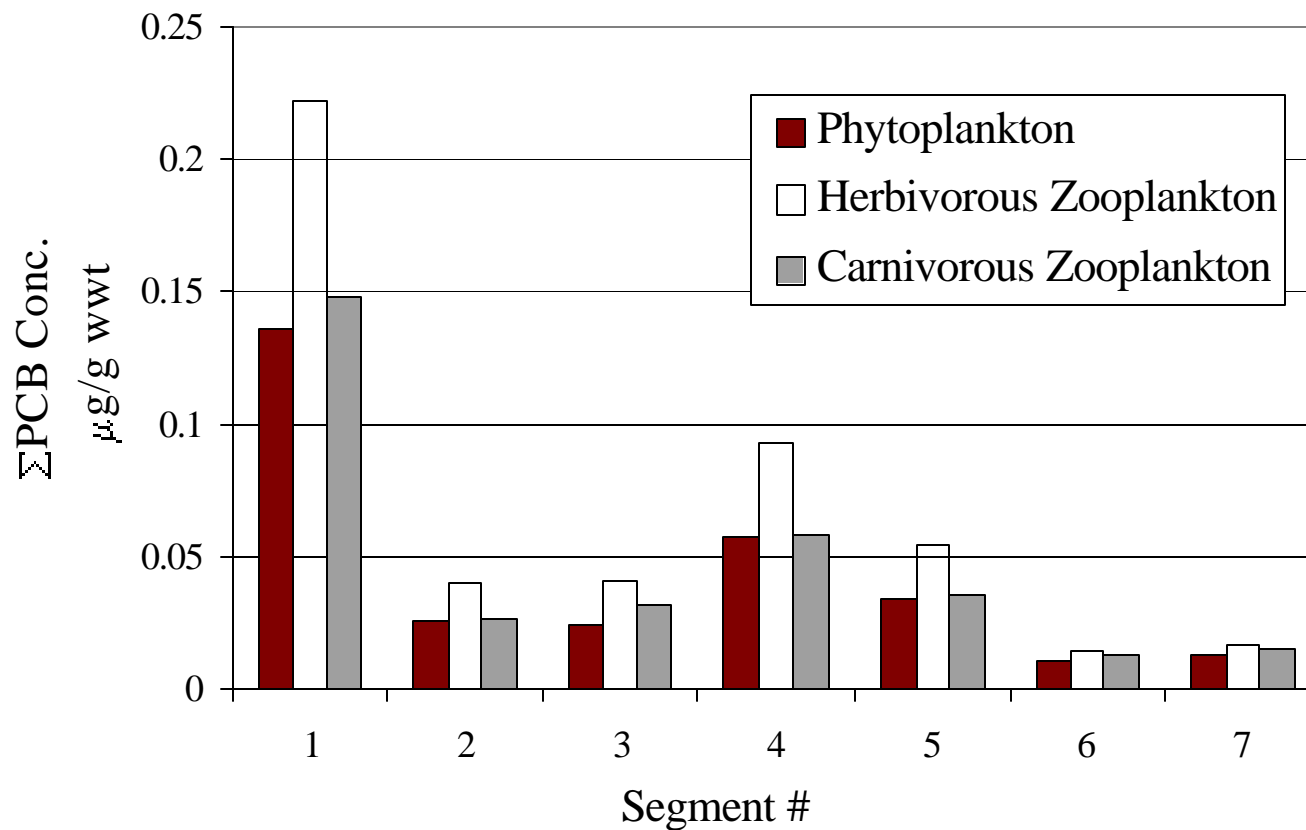


Figure 5.5: Annual average SPCB body burden (mg SPCB/g wet weight) of various species in presence of zebra mussels under Scenario 2

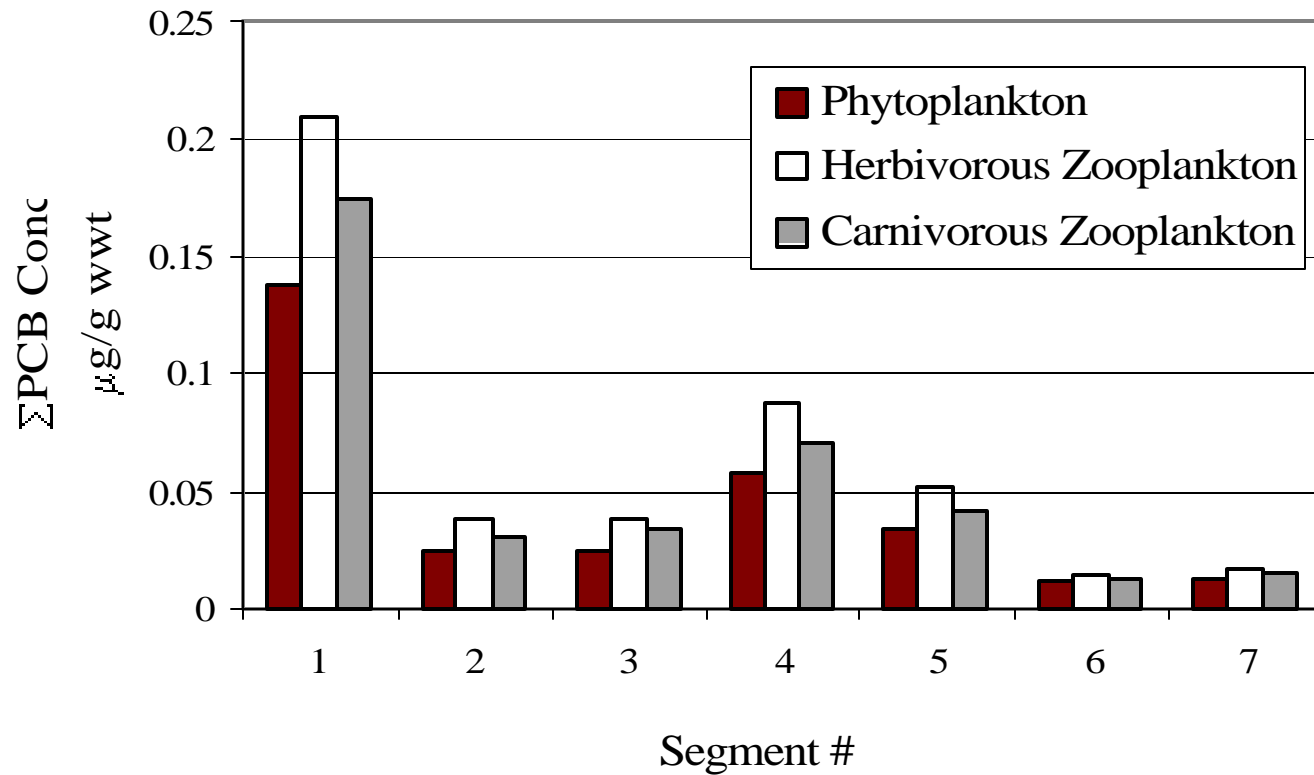


Figure 5.6: Annual average SPCB body burden (mg SPCB/g wet weight) of various species in presence of zebra mussels under Scenario 3

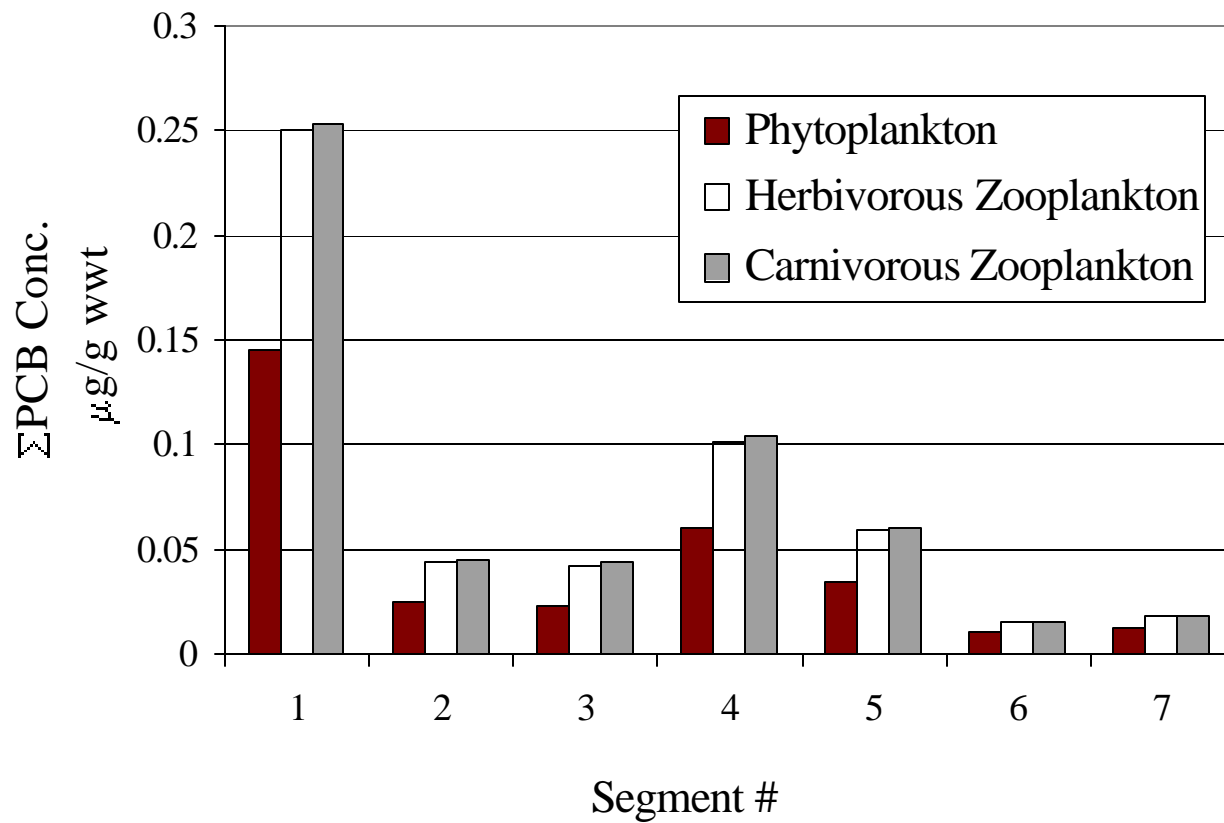


Figure 5.7: Annual average SPCB body burden (mg SPCB/g wet weight) of various species in presence of zebra mussels under Scenario 4

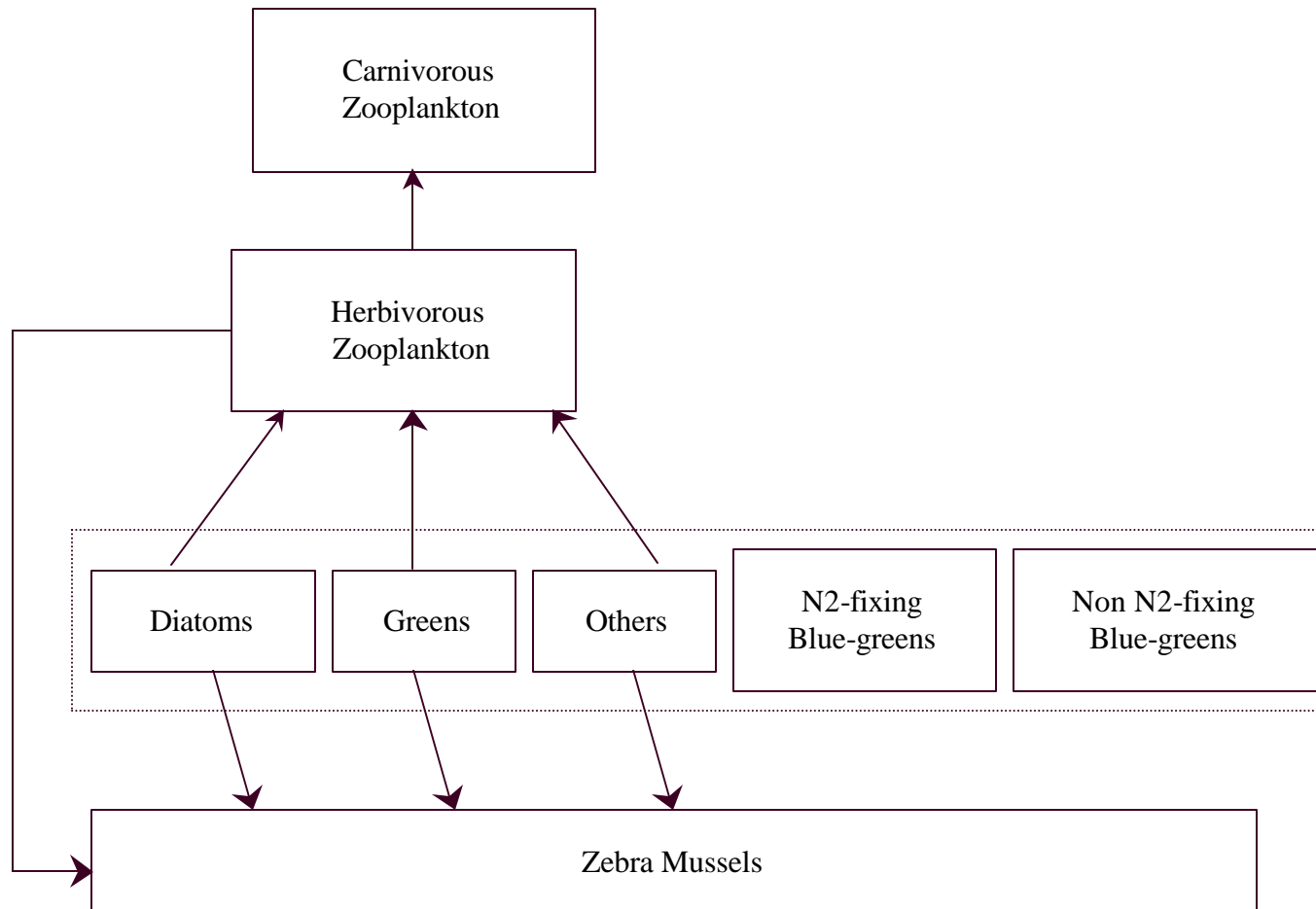


Figure 5.8: The ecosystem interactions among phytoplankton, zooplankton, and zebra mussels